

ABSTRACT OF THE DISCLOSURE

A visual prosthesis including an enhanced receiving and stimulating portion for electrically stimulating retinal tissue to present an apparent image to 5 a user. The prosthesis includes an extraocular camera which responds to a real image to generate a real image signal. The real image signal is coupled, e.g., RF coupling, from an extraocular primary coil to a secondary coil. The secondary coil is preferably affixed within the vitreous body of the user's eye positioned for good signal coupling to the primary coil and arranged to be in 10 good thermal contact with the vitreous body which acts as a heat sink. A hermetically sealed housing containing signal processing circuitry is also preferably placed in the vitreous body to assure efficient heat transfer away from the housing. The circuitry is electrically connected to the secondary coil and responds to an output signal therefrom to produce an apparent image signal for 15 driving an electrode array. The electrode array is configured to electrically stimulate the eye's retinal tissue to enable a user to perceive an apparent image.